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Clerk

IN THE UNITED STATES DISTRICT COURT  
FOR THE DISTRICT OF SOUTH DAKOTA  
Western Division

JAMES CAPE & SONS COMPANY, INC., )  
Plaintiff, )  
v. )  
THE CITY OF RAPID CITY, )  
SOUTH DAKOTA, a Municipal Corporation, )  
Defendant. )  
)

Civil Action No.: 98-5103

**COMPLAINT**

Plaintiff, James Cape and Sons Company, Inc. ("Cape"), by counsel, states as follows as its Complaint against Defendant, City of Rapid City, South Dakota ("City"):

1. Cape is a Wisconsin corporation having its principal place of business in Racine, Wisconsin.
2. Defendant is a municipal corporation organized under the laws of the State of South Dakota.
3. Jurisdiction is proper in this Court pursuant to 28 U.S.C. § 1332 because the matter in controversy exceeds \$75,000, exclusive of interests and costs, and is between citizens of different states.
4. Venue is proper in this Court pursuant to U.S.C. § 1391 in that substantially all of the acts and omissions giving rise to this claim occurred in this district and because the City is subject to service of process in this district.

5. In the Spring of 1996, the City advertised for bids on Project "AC," AIP No. 3-46-0048-20 ("Project").

6. The primary work on the Project involved reconstruction of approximately 8,700 feet of Runway 14/32 and included 15-1/2 inch Portland Cement Concrete Paving ("PCCP"), milling, bituminous base course, runway light and sign extensions, marking and striping, and rehabilitation and extension of blast pads.

7. The Bid Documents issued by the City requested a base price for work associated with Runway 14/32 and also sought prices for Alternate A, Reconstructing Taxi Entrance A1, and Alternate B, Reconstructing Taxi Entrance A6.

8. On April 30, 1996, Cape submitted a base bid for the Project in the amount of \$6,286,268.30, and prices of \$96,186.80 and \$106,892.80, respectively, for Alternates A and B.

9. The City determined that Cape's bid was the most economical total base bid and, on or about June 4, 1996, Cape and the City entered into a unit price contract ("Contract") in the estimated amount of \$6,286,268.30, plus \$96,186.80 for Alternate A and \$106,892.80 for Alternate B.

10. The Project was designated by the City as being a Partnering Project in which the City, its engineering representative ("Project Engineer"), Cape, and Cape's subcontractors entered into a Project Charter and agreed, among other things, to engage in "[o]pen, honest and effective communication," and to achieve "[q]uick conflict resolution at the lowest possible level."

11. The Project is an Airport Improvement Project funded, in part, through the Airport and Airway Improvement Act of 1982, as amended ("Improvement Act"), under

which the City receives through the Federal Aviation Administration (“FAA”) partial funding for construction.

12. As a condition of funding from the FAA, the City was required to design the Project in conformance with FAA design standards and specifications, and under the funding agreement the FAA reserved the power to inspect and approve the construction work carried out on the Project.

13. On Page C-2 of the Contract, Cape agreed to perform the work under the direct supervision of the City, subject to inspection at all times by the South Dakota Department of Transportation and the Federal Aviation Administration or their authorized agents, and in accordance with the laws of the State of South Dakota and all the rules and regulations issued for the purpose of carrying out the provisions of the Improvement Act, as amended by the Airport and Airway Safety and Capacity Expansion Act of 1987.

14. Included within the Contract are Technical Specifications (“Specifications”), which the City adopted from then-current FAA standards and specifications.

15. Item P-501 of the Specifications, which is titled, “Portland Cement Concrete Pavement,” governs the requirements for 15-1/2 inch PCCP for the Project.

16. Paragraph P-501-3.1 of the Specifications requires that Cape design the concrete used for 15-1/2 inch PCCP “to achieve a 28 day flexural strength such that not more than 20 percent of the concrete produced will fall below a flexural strength of 650 p.s.i.”

17. Paragraph P-501-5.1 (a) of the Specifications states, in pertinent part:

a. Flexural Strength

(1) Sampling. Each lot shall be divided into four equal sublots. Two (2) specimens shall be taken for each

sublot from the plastic concrete delivered to the job site. Sampling locations shall be determined by the Engineer in accordance with random sampling procedures contained in ASTM D 3665. The concrete shall be sampled in accordance with ASTM C 172.

(2) Testing. Specimens shall be made in accordance with ASTM C 31 and the flexural strength of each specimen shall be determined in accordance with ASTM C 78.

....

(4) Acceptance. Acceptance of pavement for flexural strength will be determined by the Engineer in accordance with paragraph 501-5.2b. The flexural strength of each subplot shall be the average of the two (2) specimen test results. The computed average shall be used for the PWL calculations.

18. Paragraph P-501-5.1 of the Specifications defines a "lot" as "[a] day's production not to exceed 4,500 square yards."

19. Paragraph 501-5.2 b of the Specifications states:

Flexural Strength. Acceptance of each lot of in-place pavement for flexural strength shall be based on the percentage of material within specification limits (PWL). The PWL plan considers the variability (standard deviation) of the material and the testing procedures, as well as the average (mean) value of the test results. The standard deviation shall be determined from the Contractor's own data or from historic data. If material with high variability is produced, then a higher average strength must be maintained in order to achieve a PWL or 80 percent or more.

20. Paragraph P-501-8.1 a of the Specifications states:

Basis of Adjusted Payment for Flexural Strength (PFs). A pay factor for flexural strength shall be determined in accordance with the following schedule when the percent with specification limits (PWL) equals or exceeds 60 percent.

Percent within Limits (PWL) (PFs)	Pay Factor for Flexural Strength
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80-100	0.76 + 0.003 PWL
60-79	0.00017 PWL <sup>2</sup> – 0.0105 PWL + 0.75

When the PWL is below 60 percent, the lot shall be removed and replaced. However, the Engineer may decide to accept the deficient lot. In that case, if the Engineer and Contractor agree in writing that the lot shall not be removed, it will be paid for at 50 percent of the contract price.

21. The flexural strength test results mandated by Item P-501 are intended to provide an accurate indication of the actual flexural strength of the in-place 15-1/2 inch PCCP on the Project.

22. The City, through the Project Engineer, issued to Cape a Notice to Proceed on June 13, 1996, and Cape began work on the Project within ten days thereafter.

23. The Project was substantially completed by Cape in a satisfactory manner on or about October 4, 1996.

24. In October 1996, the City notified Cape that it was withholding \$322,497.75 from amounts otherwise due Cape for 15-1/2" PCCP because flexural strength tests for several lots on the Project produced PWL's less than 100 and, pursuant to Paragraph P-501-8.1a, warranted pay reductions in that amount.

25. On or November 1, 1996, Cape employed the services of an independent engineer ("Independent Engineer") who possesses extensive experience in PCCP and, in particular, PCCP for airport runways, to review the validity of the flexural strength test results.

26. On March 12, 1997, the Independent Engineer produced a report of his evaluation of concrete flexural beam strengths at the Project ("Report No. 1").

27. Report No. 1 concludes that the flexural strength tests relied upon by the City are unreliable due to the presence of elongated coarse aggregates in the concrete used to cast test specimens.

28. The Independent Engineer determined that due to the presence of elongated aggregates, ASTM standard C-31, which is referenced by and made part of the Specifications, mandated the use of eight-inch flexural test specimens rather than the six-inch specimens actually used.

29. The Independent Engineer concluded that, although the presence of elongated aggregates in the concrete impacted the reliability of flexural strength measurements on the test specimens, such aggregates met the requirements for coarse aggregates prescribed in the Specifications and had no adverse affect on the flexural strength of the in-place 15-1/2 inch PCCP placed by Cape on the Project.

30. The Independent Engineer also conducted alternative testing and analyses which quantified the effect elongated aggregates had on the test results, and concluded that the in-place 15-1/2 inch PCCP meets, and in many instances exceeds, the flexural strength requirements for the Project.

31. Cape produced a copy of Report No. 1 to the City and to the Project Engineer, and received back from the Project Engineer comments originated by the FAA.

32. In response to comments and questions raised by the Project Engineer and the FAA, the Independent Engineer conducted additional analyses and produced a second report (Report No. 2), a copy of which was also produced to the City and Engineer.

33. In connection with Report No.2, the Independent Engineer conducted additional alternative or referee testing ("Referee Testing") of specimens that were cast during

the Project, and concluded once again that the in-place 15-1/2 inch PCCP exceeds the flexural strength requirements for the Project.

34. Within the concrete paving industry, it is customary for project owners to resort to Referee Testing when normal flexural strength tests are suspect or a reasonable doubt exists as to the validity of such test results.

35. On March 18, 1986, the Engineering and Specifications Division of the FAA issued to all FAA regional offices Engineering Brief No. 34 ("Brief 34") titled, "Referee Testing of Hardened Portland Cement Concrete Pavement."

36. Brief 34 states as its purpose the following, in pertinent part: "[t]he purpose of this Engineering Brief is to present a method of testing hardened portland cement concrete pavement when doubt exists as to the validity of the standard flexural strength test results."

37. Brief 34 provides that when reasonable doubt exists as to the validity of flexural strength tests, the hardened concrete pavement may be cored and such cores subjected to split tensile testing in accordance with ASTM C 496, and the results of such tests shall be converted to flexural strength based upon a mathematical formula provided therein.

38. Among the reasons cited in Brief 34 as potentially supporting a reasonable doubt regarding test results are: "[i]mproper specimen preparation or curing, mishandling of test beams, improper testing techniques, uncalibrated testing machines, etc."

39. Use of six inch test specimen molds rather than eight inch specimen molds constitutes improper specimen preparation and improper testing techniques because ASTM standard C-31 mandates the use of the eight inch specimen molds given the actual size of elongated aggregates used by Cape in the PCCP concrete mix.

40. Cape has demonstrated to the City that the flexural strength test results are suspect and that reasonable doubt exists as to the validity of such results.

41. Cape has demonstrated to the City through Referee Testing provided for in Brief 34 that the in-place 15-1/2 inch PCCP on the Project meets, and in many instances, exceeds the flexural strength requirements of the Contract.

42. Cape has demonstrated to the City through other Referee Testing that the in-place 15-1/2 inch PCCP on the Project meets, and in many instances, exceeds the flexural strength requirements of the Contract.

43. The City's own Engineer has expressed its opinion that the in-place 15-1/2 inch PCCP will perform in accordance with its original design and will perform the 40-year design life contingent upon reasonable and proper maintenance and care and also affirmatively recommended that the contractors pay request without the P-501 pay reduction "should be honored." Upon information and belief, the City's own engineer was pressured by the FAA and the Rapid City Airport Board into changing such recommendation and later recommending that the sum of \$322,497.75 be deducted.

44. James M. Willson, P.E., at the request of the City and the Project Engineer, also conducted an independent review of Cape's Referee Testing, concluding that an acceptable pavement structure was in place and that "the body of information presented is sufficient to establish that the coarse aggregate was elongated and that the size of the test beams was too small (length and width) to produce accurate flexural test results." Willson, a consulting engineer with 35 years of experience expressed surprise that no action has been forthcoming by the owner to accept and use Brief 34 for referee testing.

Again, the City, upon information and belief at the insistence and direction of the FAA, refused to follow the independent engineer's recommendation.

45. Despite the results of Referee Testing, which indicate the in-place 15-1/2 inch PCCP meets the required flexural strength, the City has refused to make full payment to Cape for 15-1/2 inch PCCP in accordance with the Contract, and on May 12, 1997, issued to Cape its Final Estimate deducting from amounts otherwise due Cape the amount of \$322,497.75.

46. Despite the results of Referee Testing, which indicate that substantial portions of the in-place 15-1/2 inch PCCP exceeds the required flexural strength, the City has refused to recognize Cape's entitlement to bonus payments.

47. Despite the lack of reliability of the original flexural strength test results due to the presence of elongated coarse aggregates which mandated the use of 8" test beams rather than the 6" beams was used, the City has wrongfully refused to institute a Referee Testing program in accordance with Brief 34 to confirm the results obtained by Cape from its own Referee Testing.

48. Cape made several attempts in accordance with the spirit of the Partnering Charter to initiate meetings with the City and the Project Engineer so that all parties could freely exchange information and concerns relating to the 15-1/2 inch PCCP flexural strength test results.

49. In each and every case, in spite of the independent recommendations of Willson and the earlier recommendation of the City's own engineer, the City and/or the Project Engineer refused to attend such meetings.

50. The City's (a) refusal to make full payment to Cape; (b) failure to recognize Cape's entitlement to bonus payments; and (c) failure to institute a Referee Testing program in accordance with Brief 34 to confirm the results obtained by Cape from its own Referee Testing constitute a material breach of the Contract.

51. The City and the Project Engineer's various refusals to meet concerning the 15-1/2 inch PCCP flexural strength test results constitute a breach of its obligation under the Partnering Charter to engage in "[o]pen, honest and effective communication," and to achieve "[q]uick conflict resolution at the lowest possible level."

52. As a direct and proximate result of the City's material breach of the Contract and breach of obligations under the Partnering Charter, Cape has sustained damages in the amount of \$525,000.00, consisting of amounts wrongfully withheld from Cape by the City, loss of bonus compensation for 15-1/2 inch PCCP that exceeded the Contract flexural strength requirements, and excessive engineering costs.

WHEREFORE, Plaintiff requests that this Court enter judgment in its favor in the amount of \$525,000.00, plus prejudgment interest from May 12, 1997, plus costs incurred in this matter, and any further and additional relief the Court deems necessary and proper.

JAMES CAPE & SONS  
COMPANY, INC.

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**TRIAL BY JURY IS DEMANDED**

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